We claim:

1 A novel anhydrous crystalline form of S (-)-9-fluoro-2, 3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid (Anhydrous Levofloxacin)

2. The anhydrous crystalline form of Levofloxacin of claim 1 has X-ray powder diffraction pattern with peaks around 6.281, 9.433, 10.12, 12.471, 13.777, 15.11, 15.678, 16.137, 17.328, 18.958, 19.782, 20.341, 21.088, 21.767, 23.048, 23.683, 24.419, 25.051, 26.197, 26.724, 27.188, 27.781, 28.671, 29.929, 33.121, 35.226, 37.536, 39.07 and 42.077 degrees two theta.

3. The anhydrous crystalline form of Levofloxacin of claim 2 having an X-ray powder diffraction pattern substantially as depicted in Figure (1).

4. The anhydrous crystalline form of Levofloxacin of claim 1 having an identified significant characteristic peaks at about 460.2, 481.0, 541.9, 560.9, 581.2, 654.6, 671.5, 745.1, 803.1, 839.2, 872.9, 902.1, 937.8, 949.0, 979.6, 1021.6, 1049.6, 1084.7, 1193.9, 1249.5, 1293.5, 1305.0, 1342.1, 1397.1, 1450.3, 1521.6, 1546.9, 1621.3, 1726.2, 2782.2, 3020.0 and 3041.7 cm^{-1} in the Infra red Spectrum.

5. The anhydrous crystalline form of Levofloxacin of claim 4 having an Infra red Spectrum substantially as depicted in Figure (2).

6. A process for preparing the novel anhydrous crystalline form of S(-)-9-fluoro-2,3-dihydro-3-methyl-10-(4-methyl-1-piperazinyl)-7-oxo-7H-pyrido[1,2,3-de]-1,4-benzoxazine-6-carboxylic acid (Anhydrous Levofloxacin), which comprises;

i) refluxing N-Methyl piperazine with S (-)-9,10-difluoro-7-oxo 2,3-dihydro 7H-pyrido [1,2,3-DE] [1,4] Benzoxazine-6-carboxylic acid in nitrile solvents such as

acetonitrile or propionitrile, preferably acetonitrile till the reaction substantially completes;

ii) distilling off the solvent from the reaction solution obtained in step (i);

iii) refluxing the residue obtained in step (ii) in aromatic hydrocarbon solvent comprising of benzene, toluene, xylene or ethyl benzene, preferably toluene for 1 to 10 hours;

iv) cooling the reaction mass obtained in step (iii) to 0-25 °C to obtain solid mass;

v) filtering the solid mass and drying at a temperature of 30-100°C, preferably at 40-50°C to get the crude compound;

vi) refluxing the crude compound obtained in step (v) in nitrile solvents comprising of acetonitrile or propionitrile, preferably acetonitrile;

vii) filtering the undissolved material obtained in step (vi) and further washing with nitrile solvent as described in step (i);

viii) drying the filtered undissolved material of step (vii) at 30-100°C, preferably at 40-50°C to afford the novel anhydrous crystalline form of Levofloxacin.

7. The process according to claim 6 of step (i), (vi) and (vii) where in the nitrile solvent is acetonitrile.

8. The process according to claim 6 of step (iii) where in the aromatic hydrocarbon solvent is toluene.

9. The process for the preparation of novel anhydrous crystalline form of Levofloxacin is substantially as herein described and exemplified.